Gadsden Valuations

Technical Summary

Meridian v6.11 • March 2026

1. Model Overview

Gadsden Meridian is an automated valuation model (AVM) producing point estimates of residential property market value for properties in England and Wales.

For each property, the model produces:

- A point estimate of market value (£) with prediction interval
- A confidence tier (1–3, or declined) with FSD mapped to the EAA 0–7 scale
- Comparable transaction evidence supporting the estimate
- A downloadable PDF report with full audit trail

2. Intended Use Cases

- Valuation cascade integration — first node in an AVM → desktop → physical inspection workflow
- Portfolio revaluation for Basel 3.1 compliance (expected January 2027)
- Remortgage AVM-assisted valuations where physical inspection is not proportionate
- Independent cross-check against physical valuations or competing AVM outputs
- Desktop review support for valuers conducting restricted-service assessments
- Market monitoring for the 10% revaluation threshold

3. Coverage

England and Wales. Four standard residential property types: detached, semi-detached, terraced, and flats/maisonettes.

Exclusions: Scotland, Northern Ireland, commercial property, new-build prior to first sale, non-standard constructions.

4. Methodology

Gradient-boosted decision tree ensemble trained on Land Registry data enriched with government open data sources.

5. Validation Approach

All accuracy metrics use strict walk-forward testing: the model is trained on transactions up to a cutoff date and tested exclusively on future transactions it has never seen. The current test set comprises 147,188 transactions (Q4-2025).

6. Benchmark Methodology

All accuracy metrics are measured against **Land Registry completion prices** — the actual amount paid in arm's-length transactions. This is a materially harder test than benchmarking against surveyor opinion.

The industry leader, Hometrack, reports ~80% PE10 benchmarked against surveyor valuations. Published PE10 figures from providers using the surveyor benchmark are not directly comparable with ours.

7. Accuracy Metrics

Metric	Value	Description
MdAPE	**6.0%**	Median Absolute Percentage Error
PE5	**43.3%**	Within ±5% of sale price
PE10	**69.4%**	Within ±10% of sale price

Metric	Value	Description
PE15	**82.7%**	Within ±15% of sale price
PE20	**89.4%**	Within ±20% of sale price
Bias	**1.56%**	Systematic over/undervaluation
FSD	**23.5%**	Forecast Standard Deviation
Transactions	147,188	Q4-2025 Land Registry completions

8. By Property Type

Type	n	MdAPE	PE10	PE15	PE20	Bias
Flat	23,817	7.2%	63.0%	77.4%	85.5%	+2.5%
Terraced	47,321	5.9%	69.3%	82.3%	88.9%	+1.7%
Semi-Detached	43,907	5.6%	72.1%	84.7%	91.1%	+1.2%
Detached	32,143	6.0%	70.4%	84.3%	90.9%	+1.1%

9. By Price Band

Band	n	MdAPE	PE10	PE15	PE20	Bias
<£150k	21,652	9.3%	52.6%	66.2%	74.8%	+12.6%
£150-300k	59,783	5.6%	72.0%	85.0%	91.3%	+0.8%
£300-500k	43,719	5.3%	75.1%	88.0%	93.8%	-0.8%
£500k-1M	20,176	6.3%	68.8%	83.4%	91.1%	-2.1%
£1M+	1,858	10.0%	50.0%	67.5%	79.0%	-6.5%

10. Confidence Model

Each valuation receives a confidence tier based on data availability and comparability factors.

Tier	EAA Scale	Typical Profile	Recommended Action
1 (High)	0–2	Dense comparables, known floor area, common type	Accept for valuer review
2 (Medium)	3–4	Some comparables, partial data, less common type	Desktop review recommended
3 (Low)	5–6	Sparse comparables, missing key data, unusual property	Physical inspection required
Declined	7	Insufficient data for meaningful valuation	Cannot value

Empirical accuracy by tier (Q4-2025 bulk test):

Tier	n	% of test	MdAPE	PE10	Bias
Tier 1 (High)	70,280	69.6%	4.5%	**81.3%**	+0.4%
Tier 2 (Medium)	18,611	18.4%	8.4%	**57.4%**	+2.8%
Tier 3 (Low)	12,047	11.9%	9.4%	**52.5%**	+3.0%

Tier 1 covers 70% of transacting properties with 81.3% PE10 — demonstrating that the confidence model effectively identifies properties where accuracy is highest.

11. Known Limitations

The model values properties based on recorded data. It cannot account for:

- **Internal condition** — renovation status, kitchen/bathroom quality, structural issues
- **Bespoke improvements** — extensions or conversions not yet reflected in EPC or planning data

- **Legal encumbrances** — restrictive covenants, rights of way, leasehold complications
- **Micro-location** — specific view, aspect, noise, or neighbourhood factors
- **Market lag** — Land Registry data lags completion by 2–4 months

12. Data Sources

Source	Update Frequency
HM Land Registry Price Paid	Monthly
EPC Register	Monthly
ONS Census 2021	Decennial
ONS House Price Index	Monthly
GIAS School Register	Daily
Ofsted Inspection Ratings	Rolling
Environment Agency Flood Zones	Annual

All data sourced under Open Government Licence v3. No proprietary datasets.

13. Regulatory Alignment

Standard	Alignment
PRA SS1/23	Published methodology, accuracy monitoring, confidence indicators, per-valuation audit trail
Basel 3.1	Portfolio revaluation capability, 10% threshold monitoring, batch and API delivery
IVS 105	Model characteristics documentation, validation methodology, limitation acknowledgement
EAA ESSVM 3rd Edition	Methodology disclosure, confidence scoring on common 0–7 scale, segmented accuracy
RICS Red Book (Jan 2025)	Consistent with PS 1.3, PS 1.6, and VPS 5 disclosure requirements

14. Further Information

Further technical detail is available on request.

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